SANTA CRUZ BIOTECHNOLOGY, INC.

GSTM3 siRNA (h): sc-88688

BACKGROUND

Members of the glutathione S-transferase (GST) family of proteins function in the detoxification of xenobiotics to protect cells against toxicant-induced damage. There are eight families of GST proteins, namely α, ζ, θ, κ, μ, π, σ and ω, each of which are composed of proteins that have a variety of functions throughout the cell. The GSTM proteins (GSTM1-GSTM5 in human and GSTM1-GSTM7 in mouse) are members of the μ class of enzymes that conjugate with glutathione and function in the detoxification of carcinogens, environmental toxins and products of oxidative stress. GSTM3 is a 225 amino acid protein that is expressed in the testis and brain. Localized to the cytoplasm, GSTM3 exists as a homodimer.

REFERENCES

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3. Massey, T.E., et al. 2000. Mechanisms of aflatoxin B1 lung tumorigenesis. Exp. Lung Res. 26: 673-683.
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5. Breton, C.V., et al. 2007. GSTM1 and APE1 genotypes affect arsenic-induced oxidative stress: a repeated measures study. Environ. Health 6: 39.
6. Shang, W., et al. 2008. Expressions of glutathione S-transferase α, μ, and π in brains of medically intractable epileptic patients. BMC Neurosci. 9: 67.
7. Lucena, M.I., et al. 2008. Glutathione S-transferase M1 and T1 null genotypes increase susceptibility to idiosyncratic drug-induced liver injury. Hepatology 48: 588-596.
8. Fukino, K., et al. 2008. Effects of N-acetyltransferase 2 (NAT2), CYP2E1 and glutathione-S-transferase (GST) genotypes on the serum concentrations of isoniazid and metabolites in tuberculosis patients. J. Toxicol. Sci. 33: 187-195.
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CHROMOSOMAL LOCATION

Genetic locus: GSTM3 (human) mapping to 1p13.3.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

GSTM3 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GSTM3 shRNA Plasmid (h): sc-88688-SH and GSTM3 shRNA (h) Lentiviral Particles: sc-88688-V as alternate gene silencing products.

For independent verification of GSTM3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-88688A, sc-88688B and sc-88688C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

GSTM3 siRNA (h) is recommended for the inhibition of GSTM3 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GSTM3 gene expression knockdown using RT-PCR Primer: GSTM3 (h)-PR: sc-88688-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.